

- i) heating the starting reaction medium, in the absence of dimerization catalyst, to a temperature of at least 80°C, and of not more than 200°C, for a period of less than 24 hours;
- ii) reacting the reaction product from step i) containing said isocyanate dimer and unreacted monomers with a (cyclo)trimerization catalyst, under (cyclo)trimerization conditions;
- iii) removing unreacted monomers from the reaction product from step ii); and
- iv) isolating the low-viscosity polyfunctional isocyanate composition.

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(cont)

49. (Thrice Amended) A process for the preparation of a low-viscosity polyfunctional isocyanate composition containing (a) at least one isocyanate trimer containing an isocyanurate unit, or a compound containing a biuret unit or mixtures thereof, and (b) at least one isocyanate dimer containing a uretidinedione unit, from starting isocyanate monomers, in which the isocyanate groups are borne by sp^3 carbon atoms, and optionally from other monomers, this process comprising the following steps:

- i) heating the starting reaction medium, in the absence of dimerization catalyst, to a temperature of at least 120°C, and of not more than 170°C, for a period of less than 5 hours;
- ii) reacting the reaction product from step i) containing said isocyanate dimer and unreacted monomers with a (cyclo)trimerization catalyst, under (cyclo)trimerization conditions;
- iii) removing unreacted monomers from the reaction product from step ii); and

- iv) isolating the low-viscosity polyfunctional isocyanate composition.

50. (Thrice Amended) A process for the preparation of a low-viscosity polyfunctional isocyanate composition containing (a) at least one isocyanate trimer containing an isocyanurate unit, or a compound containing a biuret unit or mixtures thereof, and (b) at least one isocyanate dimer containing a uretidinedione unit, from starting isocyanate monomers in which the isocyanate groups are borne by sp^3 carbon atoms, and optionally from other monomers, this process comprising the following steps:

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- i) reacting the starting monomers with a (cyclo)trimerization catalyst under (cyclo)trimerization conditions;
 - ii) heating the reaction product from step i) containing said isocyanate trimer and unreacted isocyanate monomers, in the absence of dimerization catalyst, to a temperature of at least 80°C , and of not more than 200°C , for a period of less than 24 hours;
 - iii) removing unreacted monomers from the reaction product from step ii); and
 - iv) isolating the low-viscosity polyfunctional isocyanate composition.

51. (Thrice Amended) A process for the preparation of a low-viscosity polyfunctional isocyanate composition containing (a) at least one isocyanate trimer containing an isocyanurate unit, or a compound containing a biuret unit or mixtures thereof, and (b) at least one isocyanate dimer containing a uretidinedione unit, from

starting isocyanate monomers in which the isocyanate groups are borne by sp^3 carbon atoms, and optionally from other monomers, this process comprising the following steps:

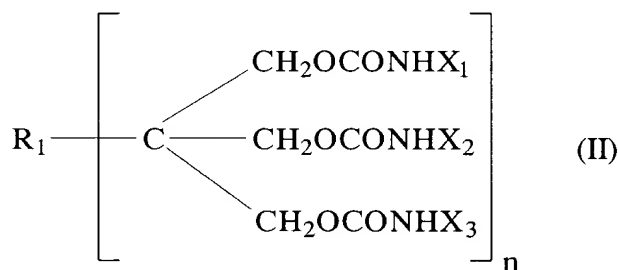
i) reacting the starting monomers with a (cyclo)trimerization catalyst under (cyclo)trimerization conditions;

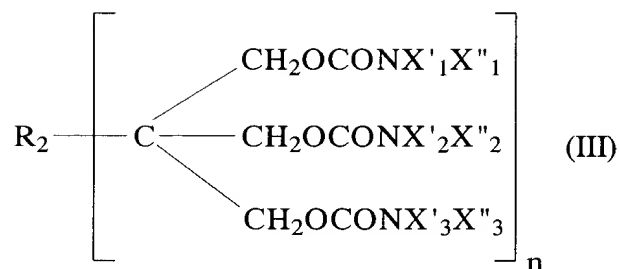
ii) heating the reaction product from step i) containing said isocyanate trimer and unreacted isocyanate monomers, in the absence of dimerization catalyst, to a temperature of at least 120°C , and of not more than 170°C , for a period of less than 5 hours;

iii) removing unreacted monomers from the reaction product from step ii); and

iv) isolating the low-viscosity polyfunctional isocyanate composition.

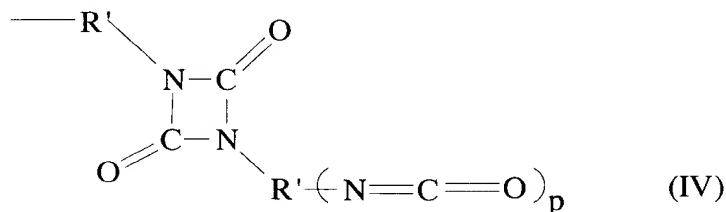
60. (Thrice Amended) A process according to claim 59, comprising adding to the reaction medium containing the starting monomers a compound of general formula II and/or III below:



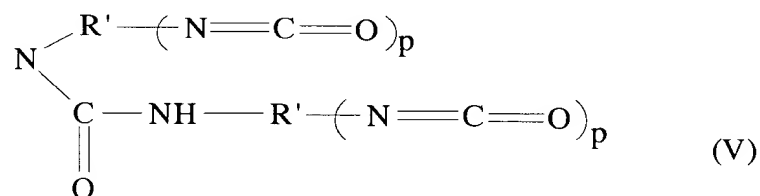


in which

one or more of X_1 , X_2 and X_3 represents a group $R'-(N=C=O)_p$ in which R' is an aliphatic group and p is an integer ranging from 0 to 5, the others representing, a group of formula

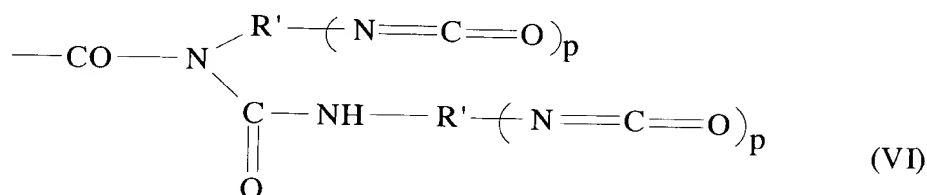


R_1 is a hydrocarbon group having 1 to 30 carbon atoms, in which the hydrocarbon chain optionally is interrupted by one or more chalcogen atoms and optionally, bears 1 to 3 OH groups, with the OH groups optionally substituted, with a group $CONX_1H$, X_1 being as defined above, at least one of $NX'_1X''_1$, $NX'_2X''_2$ and $NX'_3X''_3$ represents the group,



the others representing a group NX_1H or NX_1 -silyl and R_2 being a hydrocarbon group having 1 to 30 carbon atoms, in which the hydrocarbon chain optionally is interrupted by

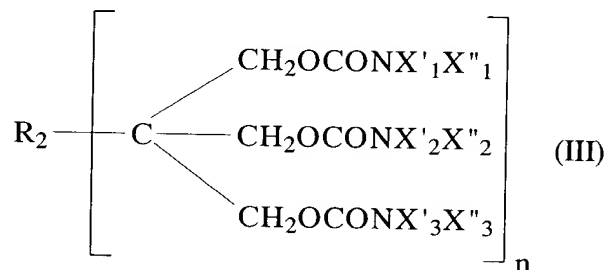
one or more chalcogen atoms and optionally, bears 1 to 3 OH groups, with the OH groups optionally substituted, with a group CONX_1H , or



and n is an integer ranging from 1 to 3.

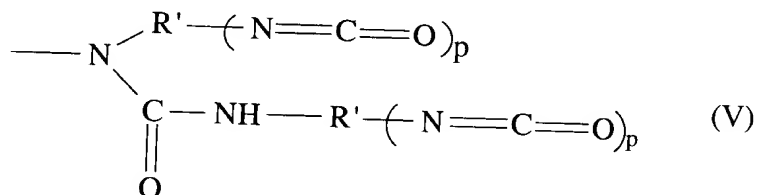
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68. (Amended) A composition according to Claim 67 comprising at least one compound of general formula X and optionally, one compound of general formula VIII or at least one compound of general formula XIII, or mixtures of compounds of formulae VIII and XIII, said composition being free of dimerization catalysts.

70. (Twice Amended) A compound of the formula III

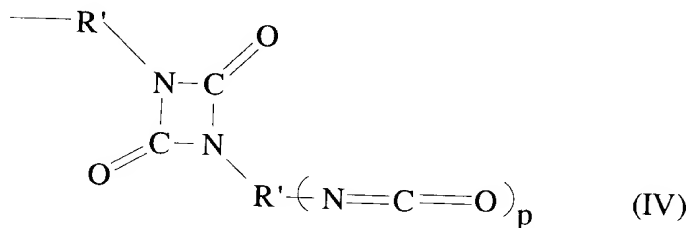


in which:

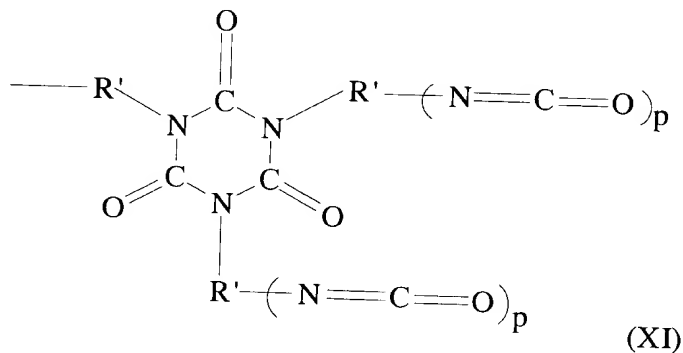
the groups $NX'_1X''_1$, $NX'_2X''_2$ and $NX'_3X''_3$ are selected from a group of general formula NX_1H , with X_1 representing a group $R'-(N=C=O)_p$ in which R' is an aliphatic group and p is an integer from 0 to 5, or a group of general formula V,



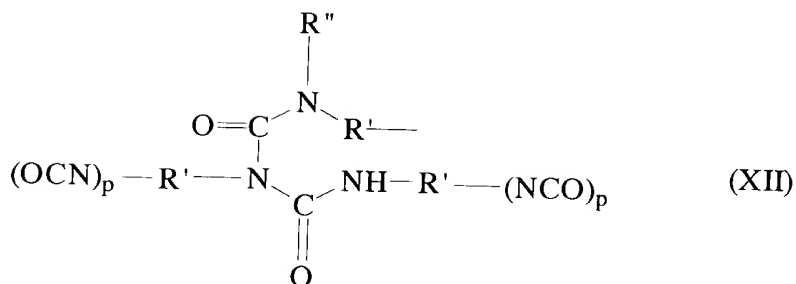
or a uretidinedione group of formula IV,



or an isocyanurate group of formula XI:



or, a biuret group of formula XII:



wherein R'' represents H or a hydrocarbon group, R₂ being a hydrocarbon group having 1 to 30 carbon atoms in which the hydrocarbon chain optionally is interrupted by one or more chalcogen atoms and optionally bears 1 to 3 OH groups and n is an integer ranging from 1 to 3,

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wherein the optional OH groups in R₂ are optionally substituted with a group selected from CONHX₁, a group of formula VI, a group of formula IV, a group of formula XI or a group of formula XII, with the proviso that the compounds containing at least one carbamate group of formula NX₁H, or CONHX₁H, or allophanate group of formula V, or group of formula V, also contain at least one group selected from a uretidinedione group of general formula IV, group of general formula IV, an isocyanurate group of general formula XI, group of general formula XI, a biuret group of general formula XII, or group of general formula XII.
